



COURSE OUTLINE : ARCH 101
D Credit – Degree Applicable
COURSE ID 001310
Cyclical Review: October 2020

COURSE DISCIPLINE : ARCH
COURSE NUMBER : 101
COURSE TITLE (FULL) : Drafting And Basic Design
COURSE TITLE (SHORT) : Drafting & Basic Design

CATALOG DESCRIPTION

ARCH 101 is a study in the fundamentals of drafting techniques used in architectural drawing, and the basic design procedure relative to good residential planning. The course studies residential building codes, drafting of working drawings, scale drawing of construction details, framing concepts, and proper dimensioning techniques.

Total Lecture Units: 1.50

Total Laboratory Units: 1.50

Total Course Units: 3.00

Total Lecture Hours: 27.00

Total Laboratory Hours: 81.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 108.00

Total Out-of-Class Hours: 54.00

Recommended Preparation: ART 130 and ENGL 100 or ESL 141.



ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	ART	130	2-D Foundations	Demonstrate a working knowledge and understanding of the basic elements of a two - dimensional art, including line, shape, texture, value, color and spatial illusion;	Yes
2	ART	130	2-D Foundations	make individual aesthetic decisions and judgments related to their own artwork;	Yes
3	ART	130	2-D Foundations	discuss, critique and evaluate their own two-dimensional compositions, as well as those of their classmates;	Yes
4	ESL	141	Grammar And Writing IV	comprehend multi-paragraph reading passages in textbooks.	Yes
5	ENGL	100	Writing Workshop	read, analyze, and evaluate contemporary articles and stories for the comprehension of difficult content and the identification of main ideas and (topic-based) evidence;	Yes
6	ENGL	100	Writing Workshop	write compositions (e.g., summaries and argumentative essays) that are easy to read and follow, though some errors in grammar, mechanics, spelling, or diction may exist;	Yes

EXIT STANDARDS

- 1 Describe the meaning of basic architectural vocabulary terms;
- 2 demonstrate proficiency in drawing on vellum and in the use of drawing instruments by the completion of various drawing assignments;
- 3 describe limited examples of the use of the International Building Code as it applies to residential construction.

STUDENT LEARNING OUTCOMES

- 1 Describe the architectural terminology that are used in a typical architectural project.
- 2 Describe the tools and techniques necessary to draw a typical view of a residential structure using a Computer Aided Design (CAD) software program.
- 3 Evaluate a building by using the International Building Code for purposes of ensuring the safety of the building occupants.



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COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction to the Study of Architecture <ul style="list-style-type: none"> • Function and design of a residential structure • Basic purpose of shelter • Room sizes • Traffic patterns within the home • Building code requirements • Architectural terminology • Styles of architecture • Past/Historic styles • Present trends • Architectural practice • Drafter/designer • Architect • Engineer 	4	1	5
2	Architectural Symbols <ul style="list-style-type: none"> • Material symbols • Interior section symbology • Exterior materials • Electrical and plumbing symbols • Door and window types and symbols 	1	4	5
3	Projection Methods <ul style="list-style-type: none"> • Visualization practice • Orthographic projection • Isometric projection • Discussion of perspective projection 	2	5	7
4	Architectural Lettering <ul style="list-style-type: none"> • Lettering styles and practice • Dimensioning 	1	4	5
5	Construction Techniques <ul style="list-style-type: none"> • Wood framing methods • Concrete foundation • Application of finish materials • Roughing in plumbing and electrical fixtures • Building code requirements 	4	6	10
6	Building Materials and Components <ul style="list-style-type: none"> • Wood, stone, steel, concrete, brick, adobe • Uses • Limitations • Reference manufacturer sources • Sweet's catalog • Other manufacturer's sources • Use of the Internet foresearch 	3	8	11



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7	Orientation of the Home • Effects of weather and sunlight • Setback and size limitations • Zoning and economics	1	4	5
8	Architectural Working Drawings • Title sheet • Site plan • Floor plan • Foundation plan • Foundation details • Section views • Electric plan • Framing plan • Exterior elevations	4	34	38
9	Architectural Renderings • Proper use of pencils and other media used in architecture • Sketching and delineation of architectural forms • Landscape forms	1	2	3
10	Presentation of Final Project • Portfolio of completed drawings • Rendering of display drawings • Purpose of architectural models • Study models • Finished models • Computer models • Final critique	1	4	5
11	Use of the AutoCAD Computer Aided Design (CAD) • SoftwareUse of CAD tools used in architectural drafting ◦ Placing lines Adding dimensions ◦ Use of layers ◦ Creating and using blocks ◦ Proper scale for various architectural drawings ◦ Use of hatch patterns ◦ Placing text ◦ Use of the array tool ◦ Printing the drawing	5	9	14
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OUT OF CLASS ASSIGNMENTS

- 1 essay (e.g. write a description of job requirements for a drafter/designer and explain why these are necessary);
- 2 group projects (e.g. complete a design project such as a kitchen including cabinetry design).

METHODS OF EVALUATION

- 1 vocabulary quizzes. (e.g. eight quizzes of 10 terms each);
- 2 midterm examination and performance test. (e.g. timed drawing test of a basic architectural project);
- 3 final individual project. (e.g. drawings of a two-bedroom project with eight sheets of working drawings);
- 4 final examination and performance test. (e.g. timed drawing test of a small residential project consisting of a floor plan, elevation and foundation detail).

METHODS OF INSTRUCTION

- Lecture
- Laboratory
- Studio
- Discussion
- Multimedia
- Tutorial
- Independent Study
- Collaboratory Learning
- Demonstration
- Field Activities (Trips)
- Guest Speakers
- Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	ISBN	Date
The Professional Practice of Architectural Working Drawings	Required	New York: John Wiley	5	Print	Wakita, Osama,	9781118880524	2017